RECLAMATION

Managing Water in the West

Draft Environmental Assessment

North Kern Water Storage District Permit for the Temporary Bridge Crossing of the Friant-Kern Canal at Shellabarger Road

EA-07-96

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South Central California Area Office
Fresno, California

May 2008

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Contents

List of Acronyms and Abbreviations

Act	Migratory Bird Treaty Act
BWC	Big West of California, LLC
CA	California
CEQA	California Environmental Quality Act
CFP	Clean Fuels Project
CFR	Code of Federal Regulations
City	City of Bakersfield
CVP	Central Valley Project
DEIR	Draft Environmental Impact Report (A CEQA document)
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FKC	Friant-Kern Canal
FWA	Friant Water Authority
FWCA	Fish and Wildlife Coordination Act
ITA	Indian Trust Assets
National Register	National Register of Historic Properties
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NKWSD	North Kern Water Storage District
NRHP	National Register of Historic Places
Reclamation	Bureau of Reclamation
SCCAO	South Central California Area Office
Service	U.S. Fish and Wildlife Service
SHPO	State Historic Preservation Office
SJKF	San Joaquin kit fox
SWID	Shafter Wasco Irrigation District

Figures and Tables

Section 1 Purpose and Need for Action

1.1 Background

The North Kern Water Storage District ("District" or NKWSD) intends to construct a new canal to connect the Cross Valley Canal to their existing Calloway Canal. The alignment of this new canal is just east of and parallel to the Friant-Kern Canal (FKC) near the terminus of the FKC in Bakersfield, California (see Figure 1).

The proposed new canal would carry up to 1,000 cubic feet per second in either direction and would be approximately 4,000 feet in length. The new canal right-of-way does not encroach upon the right-of-way of the FKC. However, accessing the proposed canal alignment for canal construction crews by crossing the FKC along the approximate alignment of Shellabarger Road could greatly facilitate the construction of the new canal. The environmental impacts of the proposed new canal construction have already been analyzed, documented and certified with a determination of a Negative Declaration by NKWSD.

Similarly, Big West of California, LLC (BWC), which owns and operates the existing BWC Refinery located in Bakersfield at 6451 Rosedale Highway (State Route 58), proposes to construct additional processing units within the refinery's property boundary on the east side of the FKC, just east of the proposed new canal of NKWSD's. The environmental impacts of the proposed refinery expansion have already been analyzed, documented and certified with an environmental impact report prepared under the auspices of the Kern County Planning Department. Accessing their property for purpose of refinery construction via a Shellabarger Road alignment crossing of the FKC would greatly facilitate the daily transport of construction crews into and out of the refinery expansion worksite (see Figure 1).

The BWC construction worksite will occupy approximately 26 acres, with an additional 60 acres used temporarily for equipment storage and lay down areas, construction offices, and parking for up to 1,210 construction worker vehicles at the anticipated peak manpower loading period.

BWC, as part of the California Environmental Quality Act (CEQA) process with the Kern County Planning Department, contracted with URS of Santa Ana, CA to prepare a "Traffic Impact Analysis Report" (Traffic Study) to evaluate the temporary peak hour impacts of the increased traffic of the construction worker vehicles in the immediate vicinity of the project. This report has been approved by the County Roads Department. BWC plans to use entrances into the refinery from Mohawk Street, Fruitvale Avenue, and Shellabarger Road. The Shellabarger

entrance is key because the majority of the temporary work force will need immediate access to the construction parking lot during the majority of refinery expansion construction.

NKWSD, as a public agency, has agreed to be the sponsor and encroachment permit holder for the requested Shellabarger Road alignment crossing of the FKC.

1.2 Purpose and Need

NKWSD and BWC have requested a permit from the Bureau of Reclamation (Reclamation) to construct two temporary one-way bridges over the FKC. The bridges are needed to decrease the impacts of the construction traffic from both projects on surrounding roadways, in particular, on Rosedale Highway. The temporary bridges would create an alternate route for workers to enter the construction sites and would reduce impacts to neighboring roadways to levels acceptable to Kern County as the local permitting agency.

1.3 Scope

Reclamation's approval is limited to the issuance of a permit for the temporary bridges over the FKC and is the focus of this Environmental Assessment (EA).

1.4 Potential Issues

The potentially affected resources in the project vicinity include:

- Water Resources
- Biological Resources
- Traffic
- Cultural resources
- Indian Trusts Assets
- Socioeconomic Resources
- Environmental Justice

Section 2 Alternatives Including the Proposed Action

2.1 No Action – Deny Permit

Under the No Action Alternative, Reclamation does not approve a permit for the two temporary bridge crossings of the FKC. Main roads in the area would be used by the construction workers to enter the sites. As a result, traffic on the main roadways in the area would significantly increase during the construction period beyond acceptable levels.

2.2 Proposed Action

Reclamation proposes to issue a Transportation and Utility Systems and Facilities on Federal Lands Permit to NKWSD for the construction of two one-way temporary bridges over the FKC located on Reclamation land at the terminus of Shellabarger Road (see Figure 1). Construction of the two bridges is estimated to be done in June of 2008 with the construction of the refinery to begin shortly thereafter. The new canal construction will not begin until after the refinery expansion is complete. Construction of both the refinery expansion and the new canal construction are estimated to be completed in less than three years after construction starts, and access over the Friant-Kern Canal with the bridges will be needed for this time period. The FKC is operated and maintained by the Friant Water Authority (FWA). The proposed project would facilitate access to two construction projects that are being contemplated:

- NKWSD intends to construct a new canal connecting the Cross Valley Canal to their existing Calloway Canal.
- BWC intends to construct additional processing units within the refinery's property boundary on the east side of the FKC, east of NKWSD's proposed new canal.

The proposed project includes:

- Construction of two 100 foot long Bailey Bridges with concrete abutments, access ramps and all-weather paving on each side of the FKC;
- Construction of a security building with two vehicle access/control gates;
- Modifications to the existing chain link fencing and gates to allow unimpeded FWA and other water agencies' (potentially KCWA or Arvin-Edison WSD) maintenance and operations activities including access by large cranes;
- Creation of a turn-around area for rejected vehicles (trucks and non BWC/NKWSD employees or contractors);

- Installation of two 42 inch diameter pipes, one on each side of the canal, under the bridges to allow for San Joaquin kit fox (SJKF) crossings: and
- Installation of supports for power and telephone utilities serving the security building on one of the bridges. (Utilities would originate from the BWC construction site.)

The bridge over FKC will primarily transport construction workers to the main construction site allowing the majority of the temporary construction workers to enter the work site from Coffee Road, which will be the primary access to the BWC construction worker parking area. Delivery trucks and heavy equipment will enter the construction site primarily from Mohawk Street.

2.2.1 Bridge Assembly

The two Bailey Bridges would be assembled on the ground from standardized, ready- to-assemble, prefabricated components into 10 foot long segments that would be connected together to create the required bridge length. All connections would be pinned, bolted or clamped, no welding would be necessary.

The bridges would be installed by cantilevering the bridges over the canal without falsework (temporary wooden or metal framework built to support a structure under construction until that structure is self-supporting), using the Bailey Bridge's launching nose and rollers. By using the cantilever launching method, no interference with the canal would occur. The grading for the approach ramps, widening of the existing FKC primary (upper level) lateral roadway as part of the approach ramps, and construction of the abutments would be required prior to placement of the bridges. The bridges would be assembled on the approach ramp as close to the bridge abutments as possible, near which the rollers would be placed. The launching nose assembly has a counterweight built in which would allow the bridge to be rolled across the canal without supports or falsework.

The closest portion of the abutment footing is 14 feet from the edge of the concrete canal liner, with the nearest soil excavation and compact at 9 feet from the concrete canal liner. The foundation and grading contractors would be required to prevent damage to the liner, and to prevent any foreign material from entering the canal. Upon installation of the bridges, the all-weather paving and final security fencing would be installed.

2.2.2 Security Building Construction

The security building would be a prefabricated wood or aluminum stud with laminate panel structure, similar to a storage shed, customized for the utility connections and for security usage by two persons. Two vehicle access/control gates in each direction (four gates total) would be installed adjacent to the building. The building would be mounted on a concrete pad foundation. As the location is within the Bakersfield city limits, a building permit would be required from the City Building Department.


Proposed Calloway Canal-CVC Intertie
Proposed Shellabarger Crossing
Cross Valley Canal
0 1,000 2,000 Feet
EST. 1958
PROVOST & PRITCHARD
ENGINEERING GROUP
An Employee Owned Company
286 W. Cromwell Ave.
Fresno, CA 93711-6162
(559) 449-2700
Figure 1
NKWSD/BWC Temporary Crossing Easement Map
Photography by AirPhoto USA, 2003
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2.2.3 Chain Link Fence Modifications

The location of the proposed temporary bridges (approximately 1/4 mile north of Brimhall Road at the Shellabarger Road alignment) does not have any existing fencing on the west side of the canal, whereas on the east side, there exists a 6 foot high chain link fence at the common property line.

Upon widening of the upper level lateral access roads for the approach ramps on each side of the canal to facilitate passage of FWA employees around the bridges, BWC proposes to add 16 foot wide gates and chain link fencing on each side of the bridges. The fencing would extend down the exterior canal slope and extend to the existing fencing on the east side, and to the bottom of the exterior slope on the west side. To accommodate SJKF passage along the FKC, at intervals of 100 feet there would be a SJKF passage under the fencing. Additional gates for lower level canal roads are also proposed. Keys or codes for these gates would be provided to the FWA. Upon removal of the bridges, the gates and fencing would be removed, and the canal banks restored to their current condition. Fencing and gates within and along the Reclamation right-of-way would be constructed according to the FWA standard plan for "Residential and Urban Safety Fencing with Privacy Slats." Fencing outside of the Reclamation right-of-way would be constructed per City Standards D-12 and D-13.

2.2.4 Turn-Around Area

The turn-around area is proposed to be on the north side of the private access road from the Coffee Frontage Road (signalized access to public street), near the FKC property line, but all in City jurisdiction. The turn-around and the private access road would be constructed as a local residential collector street per City standards with an overall structural section of 1.0 foot minimum, utilizing a minimum of 2 inches asphaltic concrete over 4 inches Class 2 aggregate base over 12 inches compacted subgrade. The turn-around would have 6 foot high chain link fence installed on the north perimeter with an access gate to the lower canal road. An access gate to the lower canal road would also be installed along the south perimeter of the access road along with a 6 foot high chain link fence.

2.2.5 San Joaquin Kit Fox Pipe

Two 50 foot long culverts made from 42 inch equivalent diameter corrugated pipe would be installed under the access ramps in the canal bank on both sides of the canal to accommodate SJKF passage along the FKC.

Upon completion of the construction of the refinery expansion and the NKWSD canal construction, BWC would remove all bridges, security buildings and vehicle gates, restore fencing to previous locations, and re-install canal access gates or barricades that were removed.

Access ramps and all-weather surfacing would also be removed in locations directed by Reclamation and FWA. The balance of the Reclamation/FWA road improvements would remain as directed for FWA use.

Section 3 Affected Environment and Environmental Consequences

3.1 Water Resources

3.1.1 Affected Environment

The FKC carries water over 151.8 miles in a southerly direction from Millerton Lake to the Kern River, four miles west of Bakersfield. The water is used for supplemental and new irrigation supplies in Fresno, Tulare, and Kern Counties. Construction of the canal began in 1945 and was completed in 1951. The canal has an initial capacity of 5,000 cubic feet per second that gradually decreases to 2,000 cubic feet per second at its terminus in the Kern River (Reclamation, 2007).

The FKC bisects NKWSD with less than 50 percent of NKWSD uphill of the FKC. There is a turnout on the North side of Poso Creek on the FKC. NKWSD has a weir across Poso Creek on the Calloway Canal approximately 1-1/2 miles below the FKC. In addition, NKWSD has a pump station on the Calloway Canal at Kimberlina Road that is used to deliver water supplies to ShafterWasco Irrigation District (SWID) via SWID's North Pipeline. The pump station can also allow water to flow into the Calloway Canal at this location. NKWSD also has a gravity outlet on the Calloway Canal near the intersection of Cherry and Fresno Avenues that is used to deliver water supplies from the SWID South Pipeline into the Calloway Canal. Finally, water supplies delivered at the end of the FKC can be exchanged for Kern River supplies being delivered at lower elevations. The Kern River supplies intended for lower elevations are diverted into NKWSD's higher elevation Beardsley Canal to be delivered to lands uphill of the FKC.

3.1.2 Environmental Consequences

3.1.2.1 *No Action*

Under the No Action Alternative, water resources would be the same as the existing conditions described above.

3.1.2.2 *Proposed Action*

NKWSD would be responsible for protecting the water supply in the FKC during the temporary bridge construction activities. The proposed temporary bridge crossings would not impede water conveyance or deliveries. There will be no changes to the canal liner. The project would have containment for all activities. The nearest excavation would occur nine feet from the canal liner.

There are no groundwater wells within the project area. The closest well is approximately one half mile west of the project area.

3.2 Biological Resources

3.2.1 Affected Environment

The project areas provide movement and foraging habitat for San Joaquin kit fox. It is assumed that the entire project area is potential San Joaquin kit fox habitat. San Joaquin kit fox occur along the Kern River that bounds the BWC area within the refinery to the south. The refinery is enclosed by a chain link fence but various gates and other unsecured access points exist that allow entry to San Joaquin kit fox. The project area is currently a mix of agricultural, industrial, commercial, and residential uses. Much of the area evaluated consists of urban development of some kind, which is generally unlikely to be occupied by special-status species other than kit fox. Of the open space, the majority is currently in active agriculture.

Although no burrowing owls were observed during the site visits, this species is known to occupy even highly impacted areas on the west side of Bakersfield, including canal banks and areas within railroad rights-of-way. If burrowing owls occupy these or any other burrows within the project site during project activities, individuals could be impacted. In addition, individual burrowing owls that may forage or pass through the project area could be subject to injury and mortality as a result of project vehicle traffic and hazards to wildlife that result from construction activities and other human activities due to this species' tendency to occupy open areas (including grass covered areas and dirt parking lots) in the presence of human activities.

No Tipton kangaroo rats were observed during surveys of the BWC components. If Tipton kangaroo rat is present on the site, take of this species would potentially occur through ground disturbance by construction equipment and increases in vehicles in the area. As this project affects a limited amount of the known range of this species, adverse impacts to the species as a whole should be minimal.

3.2.2 Environmental Consequences

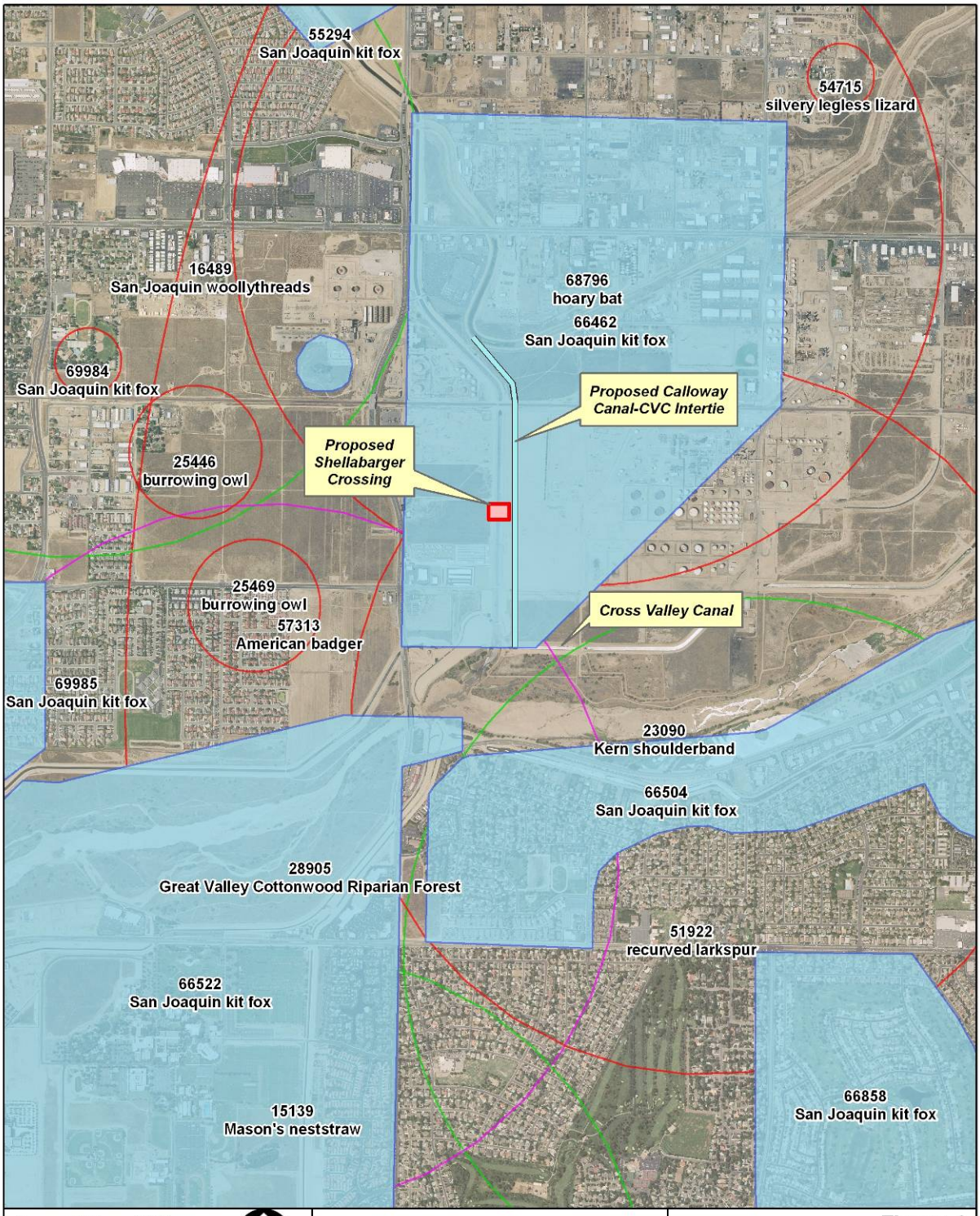
3.2.2.1 *No Action*

Under the No Action Alternative, Reclamation would not approve the temporary bridge permit over the FKC, however the construction projects would still continue.

3.2.2.2 *Proposed Action*

The Proposed Action as described has the potential to "take," as defined by the Endangered Species Act, the federally listed San Joaquin kit fox and Tipton kangaroo rat. Both species may be directly affected by potential road kill mortality. Individual San Joaquin kit fox also may be subject to harassment resulting from increased levels of human disturbance, vehicle activity, and

loss of foraging habitat. The EPA in cooperation with Reclamation has submitted a biological assessment to the U.S. Fish and Wildlife Service (Service) and is awaiting a response in the form of a biological opinion. This EA will not be finalized until formal consultation with the Service has been completed.



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3.3 Traffic

3.2.3 Affected Environment

A detailed traffic analysis was done in the draft EIR entitled "Construct Westside Parkway Project between Heath Road and SR99 in Bakersfield, Kern County TIER 2 ENVIRONMENTAL ASSESSMENT/FINAL ENVIRONMENTAL IMPACT REPORT " (DEIR), however the project evaluated in the DEIR was the expansion of the refinery rather than the building of the bridges. The analysis relevant to the impact on traffic of building the bridges has been summarized here. If more detailed information is needed, please review the DEIR. Several regionally and locally significant roadways traverse the study area. Each of the key roadway segments, as well as associated key intersections within the study area, is discussed below.

Key Roadway Segments

State Highways

State Route 99 SR 99 is a major north-south route through the Central Valley of California extending from Interstate 5 south of Bakersfield to Sacramento. It provides a vital regional north-south link to the cities and communities in the San Joaquin Valley. Within the study area, it has three mainline lanes in each direction.

Rosedale Highway (SR 58) Rosedale Highway is an east-west roadway extending from Highway 99 to Enos Lane (Highway 43) to the west. Rosedale Highway varies from two to three lanes to the east of the project through the City of Bakersfield and County jurisdictions, and down to two lanes just east of the Calloway intersection. Rosedale Highway is part of the State Route 58 system that starts at Interstate 15 near Barstow in the east and ends at State Route 101 near San Luis Obispo in the west.

Key Local Roads

Mohawk Street Mohawk Street is designated on the Metropolitan Bakersfield Circulation Plan as a 6-lane arterial road extending from Hageman Road south where it connects with California Avenue. The street is planned on the east side of the existing refinery property. The existing right of way is currently one lane in each direction and discontinuous with a short segment currently connecting California Avenue and Truxtun Avenue just south of the Kern River; a short segment bisecting Rosedale Highway, and the northerly section from Hageman south to the Calloway Canal. A planned widening and improvement of Mohawk Street is currently under way as part of the initial phase of Westside Parkway improvements. The plan includes a proposed interchange, a new traffic signal at Rosedale Highway and connection to the southern Mohawk Street segment at Truxtun Avenue by a bridge over the Kern River.

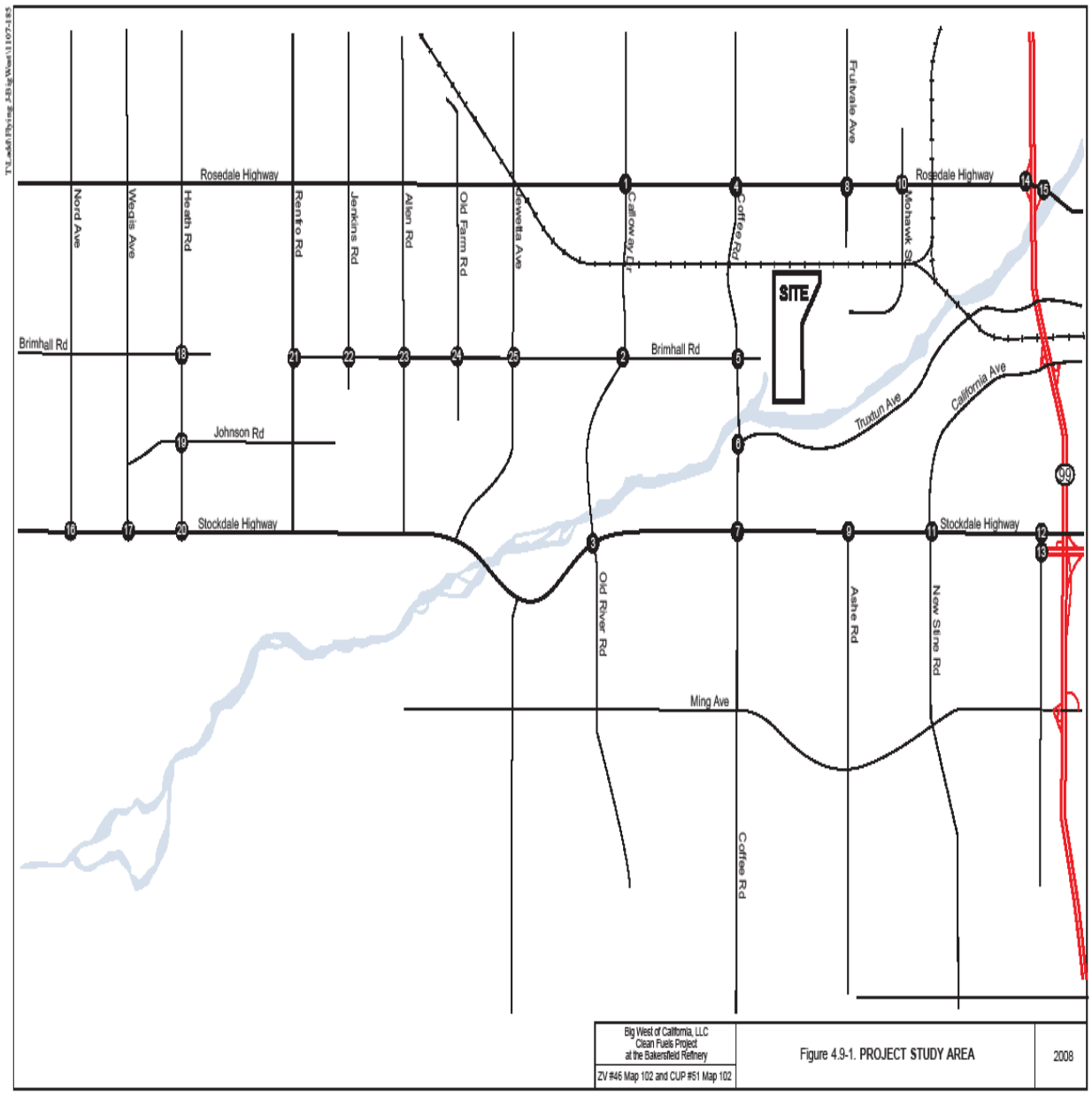

Figure 3. Project Study Area – Key Roadway Segments

Fruitvale Avenue Fruitvale Avenue is designated as a 4-lane collector road extending from Snow Road to Rosedale Highway. North of Rosedale Highway it is developed as one lane in each direction until Hageman Road where is has two lanes in each direction. South of Rosedale Highway, it becomes a local road ending at Charity Ave and is used primarily for loading

gasoline and diesel trucks at the Big West terminal on Fruitvale. This roadway primarily serves local traffic.

Stockdale Highway Stockdale Highway is an east-west arterial to the south of the proposed Project area. Within the study area, it provides for two to three travel lanes in each direction.

Calloway Drive Calloway Drive is designated as an arterial and currently connects 7th Standard Road to the north to Stockdale Highway to the south. It provides access to major east-west corridors. Most of Calloway Drive provides two travel lanes until Brimhall Road where it provides three. Calloway Drive continues south of Stockdale Highway matching up with the Old River Road alignment as a six-lane facility.

Coffee Road Coffee Road is designated as a 6-lane arterial road extending from 7th Standard Road to Stockdale Highway where it becomes Gosford Road to continue south. Coffee Road runs north-south ¼ mile west of the proposed BWC area. It provides access to residential, commercial and agricultural land uses within the study area. Most of Gosford Road provides three travel lanes except between Olive Drive to 7th Standard Road where it is one lane in each direction.

Truxtun Avenue Truxtun Avenue is an east-west collector that connects Coffee Road from the west to downtown Bakersfield to the east. The roadway currently has two lanes in each direction with left turn bays for the westbound traffic provided at major intersections only.

Westside Parkway The Westside Parkway has been in the planning stages of the City of Bakersfield for many years. Permitting and funding have now been completed for this east-west corridor that will cross the southern portion of the refinery just north of the Kern River. The ultimate right of way in that location is planned to be 210 feet with 8 lanes.

Existing Level of Service Analysis

The results of the existing conditions roadway segment Level of Service (LOS) analysis are discussed below. LOS is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections. A list of definitions for the levels of service is found on Table 1.

TABLE 1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Average Vehicle Delay per Vehicle	***Level of Service (LOS) Characteristics***
≤ 10	LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
>10 and ≤20	LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
>20 and ≤35	LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection with out stopping
>35 and ≤55	LOS D Describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c rations. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
>55 and ≤80	LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
>80	LOS F describes operations with delay in excess of 80 sec per vehicle. This level, consider to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing cause to such delay levels.

Source: 2000 Highway Capacity Manual, TRB Special Report 209

Existing Roadway Segment Analysis Table 2 displays the LOS analysis results for key study area roadway segments under existing conditions. The roadway analysis segments were selected for evaluation as they are the locations that would be most likely affected by BWC and canal construction traffic, either as potential temporary construction access roads or as operational access roads.

TABLE 2
ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS

Roadway	Segment	Cross-Section	Peak Direction Volume AM WB/EB*	Peak Direction Volume PM WB/EB	Level of Service (LOS) AM WB/EB	Level of Service (LOS) PM WB/EB
Rosedale Highway	East of Coffee Road	4-Lane	782/1078	2215/1399	C/C	F/D
Rosedale Highway	East of Mohawk Street	4-Lane	1181/2059	2126/1684	C/F	F/F
Stockdale Highway	East of Coffee Road	4-Lane	1307/1628	1211/1182	D/E	D/C
Stockdale Highway	West of Real Road	4-Lane	1494/1656	1926/2057	D/F	F/F
Coffee Road	North of Brimhall Road	6-Lane	1255/1526	1758/1537	C/C	C/C
Coffee Road	South of Brimhall Road	6-Lane	1151/2308	2331/1855	C/D	D/C
Fruitvale Street	South of Rosedale Highway	2-Lane	106/138	176/94	C/C	C/C
Mohawk St	South of Rosedale Highway	2-Lane	18/64	106/62	B/B	C/B
Stockdale Highway	Superior to Driver	2-Lane	257/247	143/475	C/C	C/C
Stockdale Highway	Driver to Nord	2-Lane	274/150	208/433	C/C	C/C
Stockdale Highway	Nord Avenue to Wegis Avenue	2-Lane	297/196	190/522	C/C	C/C
Stockdale Highway	Wegis Avenue to Heath	2-Lane	309/216	194/524	C/C	C/C
Heath Road	Stockdale to Johnson	2-Lane	25/168	136/112	B/C	C/C
Heath Road	Johnson to Brimhall	2-Lane	76/123	220/60	B/C	C/B
Brimhall Road	Renfro to Jenkins	2-Lane	105/243	447/103	C/C	C/C
Brimhall Road	Jenkins to Allen	4-Lane	125/464	254/380	B/C	C/C
Brimhall Road	Allen to Old Farm	4-Lane	250/507	504/307	C/C	C/C
Brimhall Road	Old Farm to Jewetta	4-Lane	319/854	703/421	C/C	C/C
Brimhall Road	Jewetta to Calloway	4-Lane	327/823	844/328	C/C	C/C
Brimhall Road	Calloway to Coffee	4-Lane	371/1059	1002/654	C/C	C/C

* WB = Westbound EB = Eastbound

As shown in Table 2, all of the study roadway segments are forecast to operate at acceptable levels of service with the exception to the following segments which are forecast at LOS D, E, or F:

- Rosedale Highway (East of Coffee Road) – LOS F/D PM (WB/EB)
- Rosedale Highway (East of Mohawk Street) – LOS F AM (EB), LOS F/F PM (WB/EB)
- Stockdale Highway (East of Coffee Road) – LOS D/E AM (WB/EB), LOS D PM (WB)

- Stockdale Highway (West of Real Road) – LOS D/F AM (WB/EB), LOS F/F PM (WB/EB)
- Coffee Road (South of Brimhall Road) – LOS D AM (SB), LOS D PM (NB)

Project Traffic Distribution Big West and NKWSD intend to preferentially utilize local resources for their construction labor pool. Therefore, during project construction it is assumed that the majority of the construction workforce needs will be met with local labor from within Kern County. The short-term need for specialty trades that cannot be filled from local labor sources during project construction are assumed to be filled by workers residing elsewhere. It is estimated that 50 percent of the construction workforce, or about 600 persons, may originate from outside the metropolitan Bakersfield area. It is assumed that traffic trips generated by the local workforce will originate primarily from the City of Bakersfield/metropolitan Bakersfield area and other neighboring cities such as Shafter. Traffic trips generated by workers outside the metropolitan area are assumed to originate primarily from the same areas because these workers will be utilizing local lodging.

The additional employees required for long-term operations would be local residents.

Table 3 presents the Peak Project Construction trip generation estimates for the proposed Project. This includes 50 percent of construction work force commutes, and construction truck trips. All other trips are assumed to be during nonpeak hours.

TABLE 3
PEAK PROJECT CONSTRUCTION TRIP GENERATION –
REFINERY PORTIONS OF THE BWC
(3-MONTH PEAK PROJECT CONSTRUCTION PERIOD)

		AM Peak Hour Trips		PM Peak Hour Trips	
	Daily Trips	In	Out	In	Out
Peak Construction Workforce[1]	2,400	600	0	0	600
Equipment Deliveries[2,4]	54	24	0	0	3
Construction Trucks[3, 4]	120	30	30	0	60
Total Trips	2,694	654	30	0	663

1 During 3-month Peak Project Construction period in Year 2008. 50 percent assumed to commute during the AM/PM peak hour

2 Equipment movement during 3-month Peak Project Construction period in Year 2008

3 Construction truck movement during 3-month Peak Project Construction period in Year 2008

4 3-Passenger Car Equivalent (PCE) per truck

As shown in Table 3, during the peak 3-month construction period for the refinery portions of the BWC, it is estimated that there will be approximately 684 AM peak hour and 663 PM peak hour trips respectively. These trip assumptions were used as the basis for the peak project construction traffic analysis.

3.2.4 Environmental Consequences

3.3.2.1 *No Action*

Under the No Action Alternative, Reclamation would not approve the temporary bridge permit over the FKC, however the construction projects would still continue. A common assumption for primary workers is that approximately 10 percent of construction workers will access the site via Fruitvale Street and all heavy equipment, material deliveries and oversize and extra-legal vehicles will access the site via Mohawk Street. If Big West brought workers in through Mohawk Street they would traverse east to west across the entire refinery. That many additional cars accessing Mohawk from Rosedale Highway coming and going from the refinery during work hours would negatively impact the traffic on that road segment.

Traffic impacts to surface streets in the area would occur particularly on the street segments that were already compromised as shown in Table 2 and summarized below the table. The CFP and the connector canal would be constructed but no additional access point would be available. All peak construction traffic would traverse Mohawk Street and Fruitvale Street. Traffic on these streets and the surrounding thoroughfares would be heavily impacted.

3.3.2.2 Proposed Action

Construction of the proposed temporary bridge crossing across the FKC is anticipated to be finished ahead of CFP and canal connector peak construction activities. The temporary bridge would require improvements to both the eastbound and westbound bridge approaches, construction of foundations and lifting and placement of the bridge sections in place. Given this schedule, the bridge component of the project will not add any traffic impacts during BWC peak construction. As a result, there are no impacts from the bridge component of the project to reflect in the peak BWC construction traffic impact analysis. Additionally, minimal manpower is involved in the construction of the temporary bridge crossing and as a result, this component of the project is not anticipated to cause independent impacts to traffic. The temporary Friant-Kern Canal bridge crossing will be along an alignment north of Brimhall Road and would not interfere with the freeway alignment as adopted by the City of Bakersfield and the County.

Based on the results of the roadway segment analysis, the existing LOS of the following study roadway segments adjacent to the project would be would be negatively impacted during the Year 2008 peak project construction activities.

Friant-Kern Canal Bridge Access Impacted Roadway Segments.

- Rosedale Highway (East of Coffee Road) – LOS D to E, PM (EB)
- Rosedale Highway (East of Mohawk Street) – LOS C to D, AM (WB)
- Stockdale Highway (East of Coffee Road) – LOS D to E/LOS E to F, AM (WB/EB), LOS C to D, PM (EB)

- Stockdale Highway (West of Real Road) – LOS D to F, AM (WB)
- Coffee Road (North of Brimhall Road) – LOS C to D, PM (NB)
- Coffee Road (South of Brimhall Road) – LOS D to E, AM (SB), LOS D to E/ LOS C to D, PM (NB/SB)

Although traffic on several sections of roadway have LOS values below C after construction of the bridge, the construction of the FKC bridges actually alleviates traffic on most intersections when compared to the impacts of no bridge construction. Building of the bridges themselves has a small positive effect on the traffic situation in the study area.

3.3 Cultural Resources

3.3.1 Affected Environment

Cultural resources is a term used to describe both 'archaeological sites' depicting evidence of past human use of the landscape and the 'built environment' which is represented in structures such as dams, roadways, and buildings. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government's responsibility to cultural resources. Other applicable cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protection and Repatriation Act, and the Archaeological Resources Protection Act. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking listed on cultural resources on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties. The term historic properties may also include traditional cultural properties and Native American sites of religious or cultural significance.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (in this case Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The Central Valley Project is being evaluated for the National Register. Facilities include the Friant Dam and the FKC. Friant Dam is located on the San Joaquin River, 25 miles northeast of Fresno, California. Completed in 1942, the dam is a concrete gravity structure, 319 feet high, with a crest length of 3,488 feet. The FKC carries water over 151.8 miles in a southerly direction form Millerton Lake to the Kern River, four miles west of Bakersfield. The water is used for supplemental and new irrigation supplies in Fresno, Tulare, and Kern Counties. Construction of the canal began in 1945 and was complete in 1951 (Reclamation 2006).

Archaeological resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans. Cultural studies in the San Joaquin Valley have been limited. The conversion of land and intensive farming practices over the last century has probably destroyed many Native American cultural sites.

3.3.2 Environmental Consequences

3.3.2.1 No Action

Under the No Action Alternative, no permit would be issued and therefore the temporary bridges would not be installed over the FKC. The condition of archaeological and cultural resources under the No Action Alternative would be virtually identical to the Proposed Action in that the majority of the impacts are those associated with the construction of the BWP which will proceed with or without the bridges. Thus, the impact to these resources is virtually the same as it would be under existing conditions resulting in no additional potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1).

3.3.2.2 Proposed Action

Reclamation conducted a cultural resource inventory of the APE for the Proposed Action. This inventory included identifying previously recorded cultural resources in the APE, requests for the identification of sites of religious and cultural significance by local Indian Tribes, and ground survey of the APE. As a result of these efforts, one historic property, the FKC, is within the APE. Reclamation determined that the Proposed Action would result in no adverse effect to the FKC pursuant to the regulations at 36 CFR Part 800.5(b). The California SHPO concurred with Reclamations finding of effect via a letter dated February 7, 2008. Because the Proposed Action would result in no adverse effect to historic properties, there would be no significant impacts to cultural resources as a result of the Proposed Action.

3.4 Indian Trust Assets

3.4.1 Affected Environment

Indian trust assets (ITAs) are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITAs can not be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITAs may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITAs reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

There are no tribes possessing legal property interests held in trust by the United States in the lands and resources in the vicinity of the actions proposed in this EA.

3.4.2 Environmental Consequences

3.4.2.1 No Action

No ITAs are in the project area. The condition of Indian trust resources under the No Action Alternative would be the same as it would be under existing conditions.

3.4.2.2 Proposed Action

There are no tribes possessing legal property interests held in trust by the United States in the lands and resources in the vicinity of the actions proposed in this EA. The nearest ITAs to the actions described in this EA, are located on the Tule River Indian Reservation, about 40 miles northeast of the action area.

3.5 Socioeconomic Resources

3.5.1 Affected Environment

Bakersfield is the county seat of Kern County, California. As of the 2000 census, the city had a total population of 247,057. The city's economy thrives on agriculture, petroleum extraction, and refining. It is one of the fastest growing of the larger cities of the United States. As of 2005 the

population is estimated at 307,471 according to local municipal sources. It is California's third largest inland city after Fresno and Sacramento. The median income for a household in the city is $39,982, and the median income for a family is $45,556. Males have a median income of $38,834 versus $27,148 for females (Bakersfield, 2003).

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the No Action Alternative, socioeconomic resources would be the same as the existing conditions described above.

3.5.2.2 Proposed Action

Implementation of the Proposed Action would assist the City in alleviating potential traffic congestion due to increases in vehicles needing to enter the construction site. Socioeconomic conditions would not change as a result of implementing the Proposed Action.

3.6 Environmental Justice

3.6.1 Affected Environment

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

The racial makeup of the city is 61.87% White, 9.16% Black or African American, 1.40% Native American, 4.33% Asian, 0.12% Pacific Islander, 18.68% from other races, and 4.43% from two or more races. 32.45% of the population is Hispanic or Latino of any race. The per capita income for the City is $17,678. 18.0% of the population and 14.6% of families are below the poverty line. Out of the total population, 24.4% of those under the age of 18 and 8.4% of those 65 and older are living below the poverty line (Bakersfield, 2003).

3.6.2 Environmental Consequences

3.6.2.1 No Action

Under the No Action Alternative, Reclamation would not approve a permit for the temporary bridges that would cross the FKC. The refinery expansion and canal construction would continue as planned causing increased traffic on the public streets.

3.6.2.2 Proposed Action

Implementation of the Proposed Action would assist the City in reducing the refinery expansion and canal construction related traffic in the area. The Proposed Action for the issuance of a permit for the bridge replacement over the FKC would not result in any disproportionately high and adverse human health or environmental effects on minority and low-income populations.

3.7 Cumulative Effects

The Proposed Action would have no impacts to the human environment. The Proposed Action is only a temporary project. Upon completion of the construction of the refinery expansion and the NKWSD canal construction, BWC would remove all bridges, security buildings and vehicle gates, restore fencing to previous locations, and re-install canal access gates or barricades that were removed. Access ramps and all-weather surfacing would also be removed in locations directed by Reclamation and FWA. The balance of the Reclamation/FWA road improvements would remain as directed for FWA use. Therefore, no cumulative effects are expected as a result of the Proposed Action.

Section 4 Consultation and Coordination

4.1 Fish and Wildlife Coordination Act (16 USC § 651 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action does not involve water development projects. Therefore the FWCA does not apply.

4.2 Endangered Species Act (16 USC § 1521 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined that the Proposed Action may affect the San Joaquin kit fox and the Tipton kangaroo rat. Reclamation is consulting with the Service on the Proposed Action. This EA will not be finalized until a biological opinion is received from the Service.

4.3 National Historic Preservation Act (15 USC § 470 et seq.)

Section 106 of the NHPA requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological and cultural resources. Due to the nature of the proposed project, Reclamation sought consultation with the SHPO. The California SHPO concurred with Reclamation's finding of effect via a letter dated February 7, 2008.

4.4 Migratory Bird Treaty Act (16 USC Sec. 703 et seq.)

The Migratory Bird Treaty Act (Act) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action will be in compliance with the Migratory Bird Treaty Act.

4.5 Executive Order 11988 – Floodplain Management and Executive Order 11990-Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The project would not affect either concern.

Section 5 List of Preparers and Reviewers

Laura Myers, Natural Resource Specialist, South-Central California Area Office (SCCAO)
Ned Gruenhagen, Wildlife Biologist, SCCAO
Adam Nickels, Archaeologist, Mid Pacific Regional Office
Patti Clinton, Natural Resource Specialist, SCCAO – Reviewer
Judi Tapia, Natural Resource Specialist, SCCAO –

Section 6 References

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